

Our Case No. 3716/138

#9
H. C. C. C.
11/26/03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Ferenc Fekete et al.

Serial No.: 10/089,246

U.S. Filing Date: October 15, 2002

International

Filing Date: September 27, 2000

For FERROMAGNETIC INK TRACKS
AND TOYS PROCESSES FOR
MAKING SAME

Examiner: Urszula Cegielnik

Group Art Unit No.: 3712

DECLARATION OF FERENC FEKETE UNDER 37 CFR § 1.131

I, Ferenc Fekete, declare the following based upon my personal knowledge and on information and belief:

1. I am a joint inventor of the invention (hereinafter the "invention") described and claimed in the above-identified patent application (hereinafter the "application").
2. I participated in the conception and reduction to practice of this invention as an employee for the Marketing Store Worldwide, the owner of record of this application.
3. The invention concerns a method for making a playing board that has ferromagnetic ink tracks printed thereon which form a guide path for a magnetically guided toy. The invention also concerns a magnetically guided traveling toy with a magnetically guided wheel assembly that may follow the ferromagnetic ink guide path on the playing board.
4. I am advised that U.S. Patent No. 6,217,405 A1, which is entitled "Magnetically Interactive Substrate For A Book" (hereinafter the "Burrows patent"), was filed on March 3, 1999. As noted in its abstract, the Burrows patent reportedly discloses a magnetically interactive substrate for a book. The book includes a plurality of interactive substrates in the form of a sheet or a panel of material. Each of the interactive substrates includes magnetizeable areas or portions printed

thereon. The magnetizeable areas are printed using a magnetic ink formulated by magnetizeable particles added to an ink formulated for a pre-selected printing process.

5. I am also advised that U.S. Patent No. 6,170,354 B1, which is entitled "Steering Gearbox For Toy Vehicle" (hereinafter the "Lee patent"), was filed on July 20, 1999. As noted in its abstract, the Lee patent reportedly discloses a steering mechanism and associated gearbox for a toy car or other small motorized vehicle. The steering mechanism comprises a steering arm, collar, return spring and an alignment adjuster. These components are externally mounted on a gearbox and motor which allow remote control of the steering mechanism, and the wheels controlled by the steering mechanism.

6. Prior to March 3, 1999, I first conceived of using ferromagnetic inks on substrates such as paper.

7. Prior to March 3, 1999, joint inventor Thomas Fung and I collaborated on several experiments and studies to formulate ferromagnetic inks and print them on various substrates. Exhibits A1 and B1 represent examples of iron powder-based inks silk screened on paper prior to March 3, 1999. Exhibit C3 presents a detailed analysis of iron powder from Japan that was used in one of the ferromagnetic ink formulations prior to March 3, 1999.

8. Prior to March 3, 1999, under my direction, my fellow employee, Patrick Kai, sketched designs for a magnetically guided toy vehicle that could be used with the ferromagnetic ink tracks. Exhibits D1, D2 and D3 are those sketches of various embodiments of the magnetically guided toy that were developed prior to March 3, 1999.

9. Prior to March 3, 1999, continued development of my invention progressed. For example, Exhibits G1 through G5 illustrate various embodiments of different playing boards and substrates having ferromagnetic ink tracks printed thereon.

10. I continued to supervise the diligent reduction to practice of the conceived invention. For example, Exhibit H is a memo to me from Thomas Fung that describes various processes for making and printing the ferromagnetic ink tracks on playing boards. The memo notes on page two that "All of the processes listed here have been analyzed and studied in the last 2 years." Those processes

were all conceived prior to March 3, 1999, and at least a major portion of that two-year period of analyses and studies of those processes was prior to March 3, 1999.

11. Prior to March 3, 1999, I modeled several versions of a steering mechanism which can sense the ferrous ink and demonstrated one of the early models of a toy vehicle at a meeting, which occurred prior to March 3, 1999, at the Westmont, Illinois office of the Marketing Store Worldwide in the United States. This meeting and demonstration was documented in a letter that I sent to legal counsel. A copy of this letter is attached as Exhibit I.

12. As demonstrated by the above-referenced exhibits, prior to March 3, 1999, the playing board with printed ferromagnetic ink tracks made by varying processes and a magnetically guided toy vehicle for use with such paying board was conceived and reduced to practice.

13. The attached Exhibits A-D and G-I (Exhibits E and F are omitted from this declaration) are copies of the original documents. Dates and information from which dates can be derived have been redacted from the attached copies.

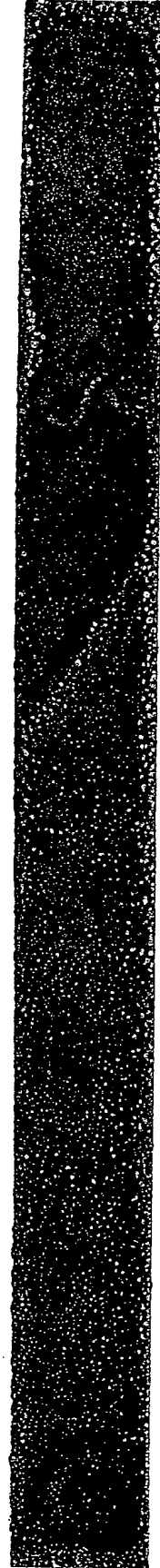
14. The activities, which are being relied upon and are reported in this Declaration and reported in the attached exhibits, were conducted in Hong Kong or in the United States before March 3, 1999. The activity occurring in Hong Kong, took place after January 1, 1996. I understand that during this period, Hong Kong was a WTO member country.

I declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and I am warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. § 1001) and may jeopardize the validity of the subject application or any patent issuing thereon.

Date: NOVEMBER 20, 2003

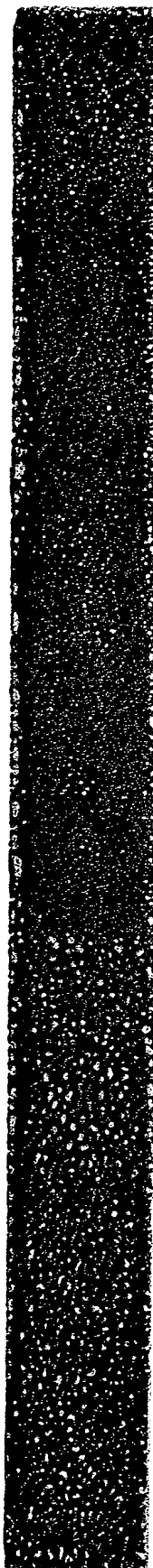

Ferenc Fekete

EXHIBIT A₁



Iron Powder from Taiwan
Contain : 60%
Printability : 16 pcs
Magnetic effect : Fair

EXHIBIT B1



JAPAN

Iron Powder from ~~USA~~

Contain : 60%

Printability : 18 pcs

Magnetic effect : Good

JAPAN IRON POWDER
RECEIVED FROM THOMAS

マイロンーP は、電解鉄を機械粉碎した高純度電解鉄粉です。反応性に富み、溶解性にも優れています。

EXHIBIT C3

マイロンーP is high purity iron powder prepared by mechanical pulverization of electrolytic iron. As unannealed, it is rich in chemical reactivities, and also excellent in solubility

◆ 用 途 APPLICATIONS

触媒、鉄粉樹脂、還元剤、高純度試薬、etc.

Catalyzer, Resin mould enrichment, Reducing agent, High purity reagent, etc.

◆ 化学成分 CHEMICAL ANALYSIS (%)

品名 Item	T.Fe	C	P	S	Si	Mn	H ₂ LOSS
P10-20	≥ 99.5	< 0.01	< 0.002	< 0.005	< 0.005	< 0.001	< 0.5
P20-80	≥ 99.5	< 0.01	< 0.002	< 0.005	< 0.005	< 0.001	< 0.5
P-100	≥ 99.5	< 0.015	< 0.002	< 0.015	< 0.005	< 0.002	< 1.5
P-200	≥ 99.5	< 0.015	< 0.002	< 0.015	< 0.005	< 0.002	< 2.0

◆ 粒度分布 PARTICLE SIZE DISTRIBUTION

品名 Item	粒度分布 (%)									
	Particle size distribution									
mesh	+9	~16	~20	~35	~80	~100	~150	~200	~325	-325
P10-20	< 5	50~80	10~35	< 25						
P20-80	< 2		35~70	30~60	< 15					
P-100	< 2						0~60	20~35	> 10	
P-200	< 2						5~20	30~45	> 30	

マイロンーP G は、電解鉄を機械粉碎で平均粒径30~40 μ mまで微細化した高純度電解鉄粉です。

マイロンーP G is high purity powder of electrolytic iron mechanically pulverized into fine grains as 30 to 40 microns in average particle diameter.

◆ 化学成分 CHEMICAL ANALYSIS (%)

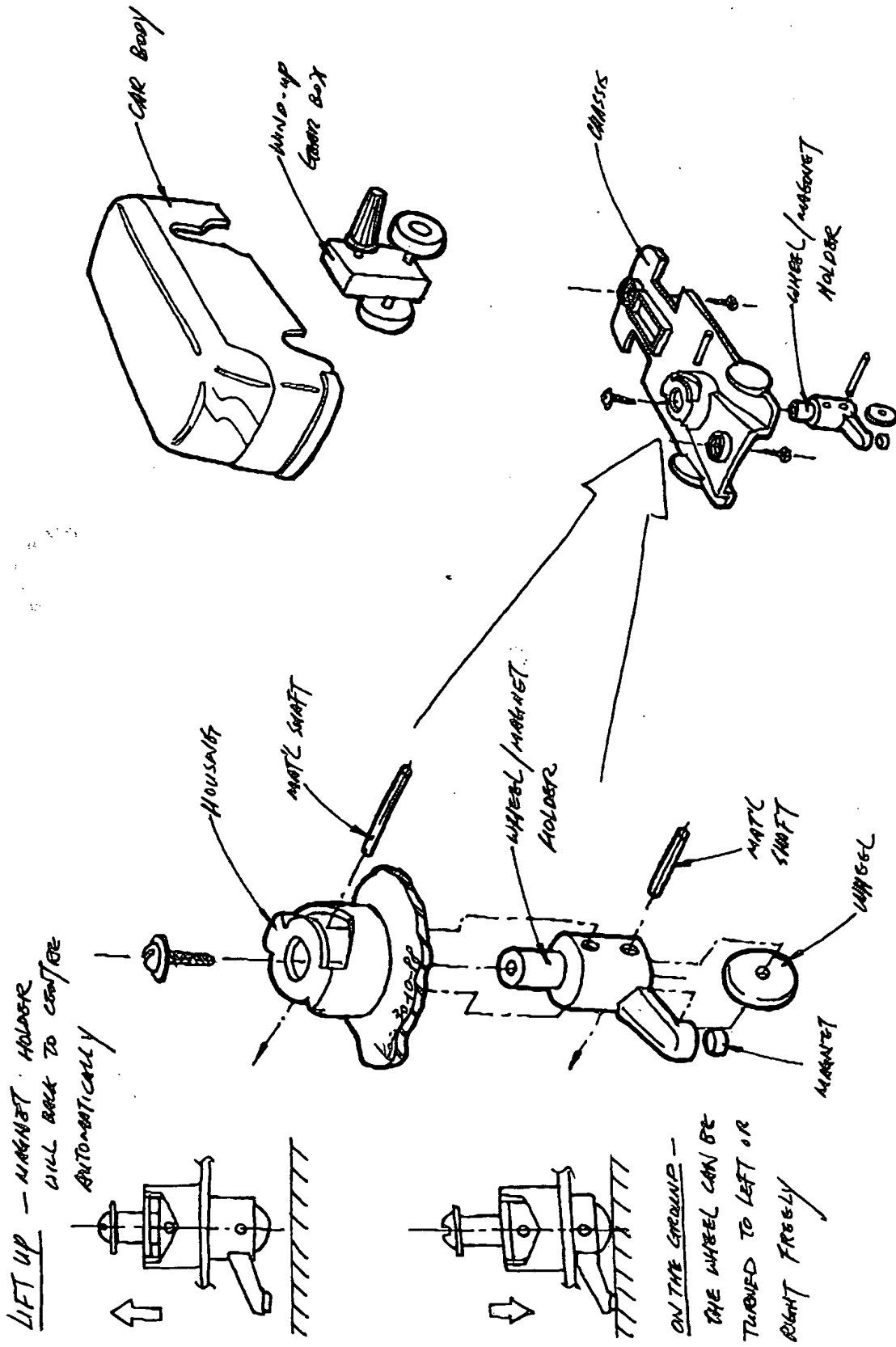
T. Fe	C	P	S	Si	Mn	H ₂ LOSS
≥ 99	< 0.01	< 0.002	< 0.015	< 0.005	< 0.0015	< 2.0

◆ 物理的性質 PHYSICAL PROPERTIES

A.D (g / cc)	比表面積 (m ² /g) Specific surface area	粒度分布 Particle size distribution	
		250~325 mesh	-325
1.9~2.2	0.4~0.9	< 10%	> 90%

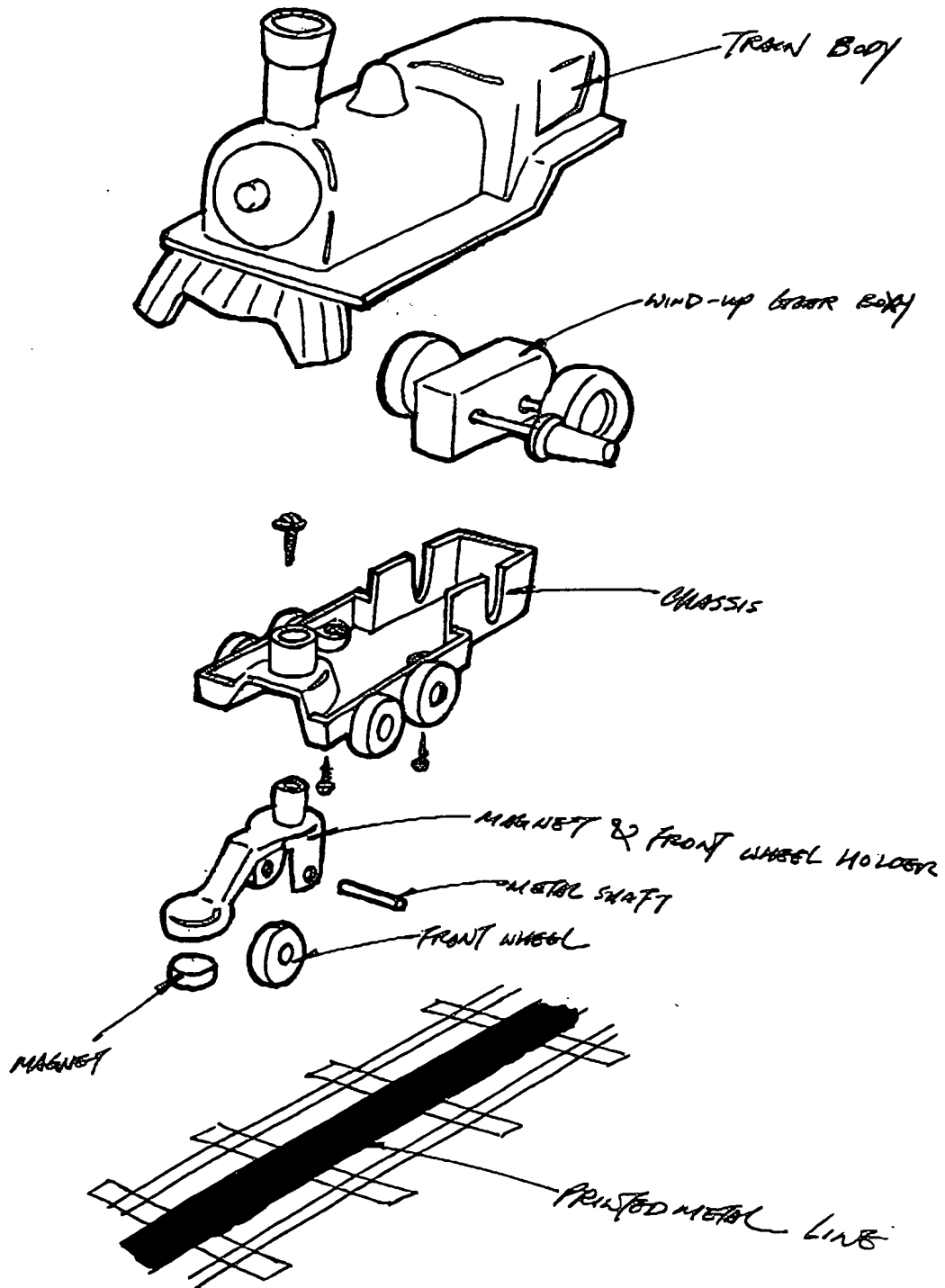
TO: FERRIS FERRITE
 FROM: PATRICK BAY

EXHIBIT D1



DESIGN AND DRAWN BY: PATRICK BAY

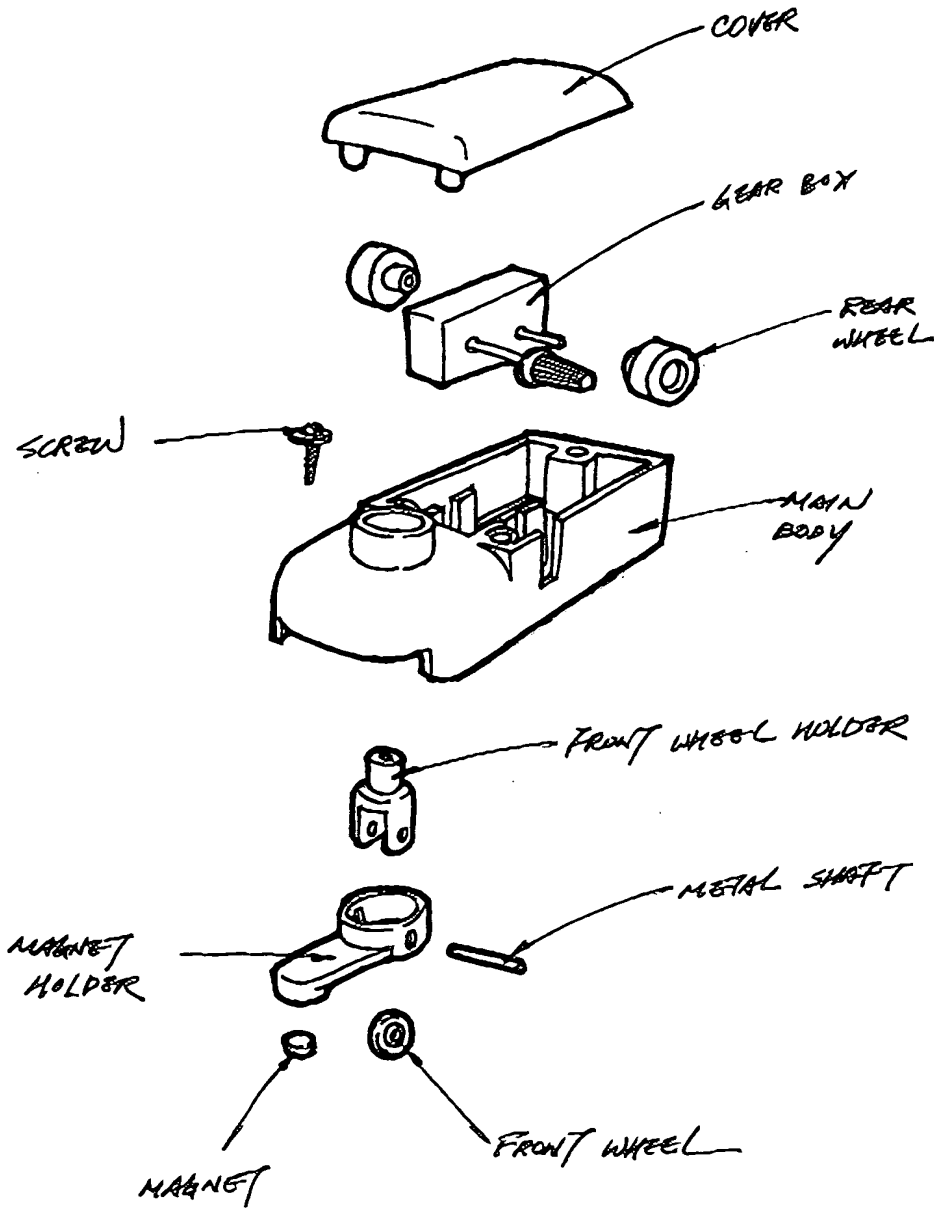
EXHIBIT D2



Patricia Lee

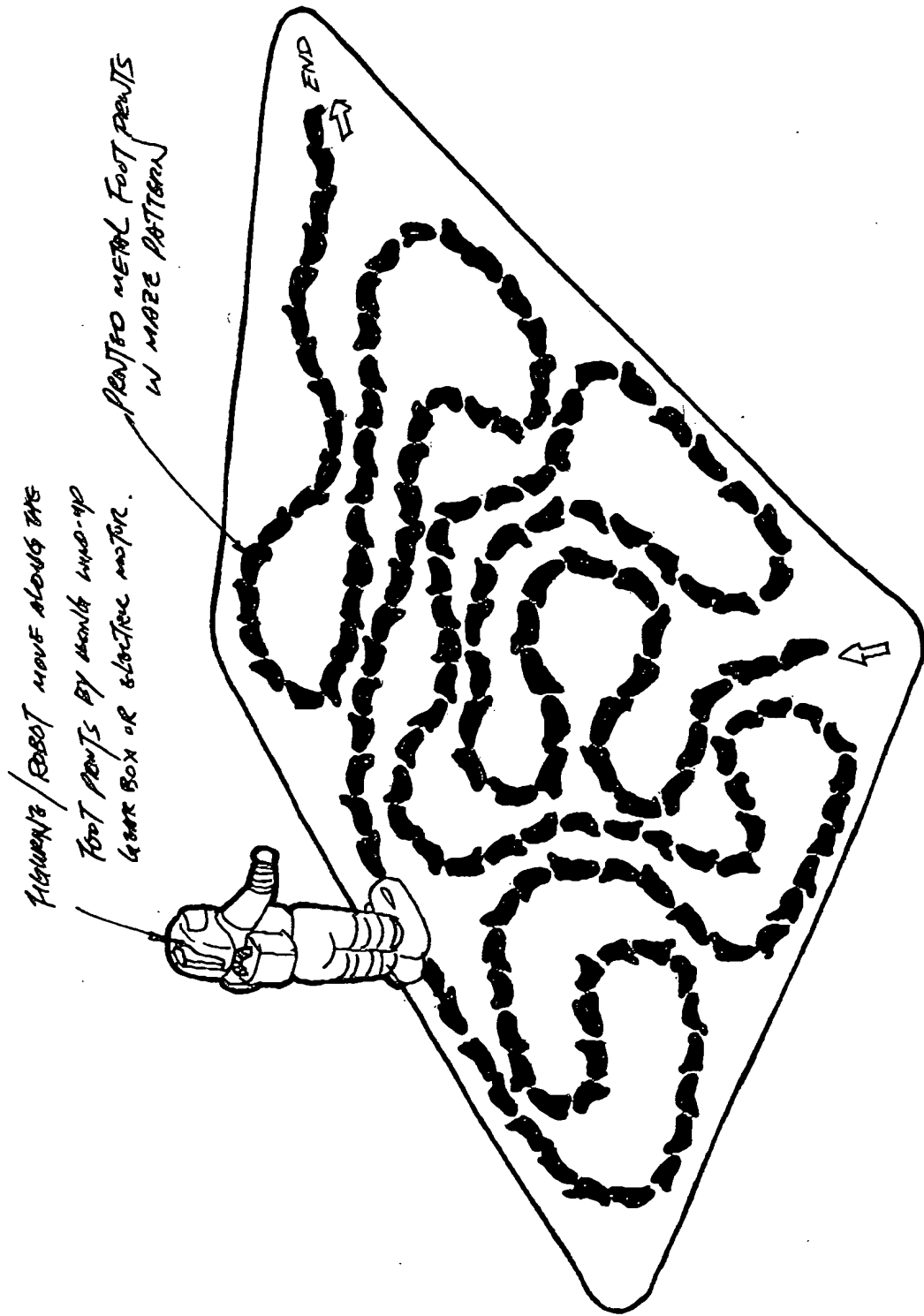
To: JEROME FOLGATE,
FROM: PATRICK LEM

EXHIBIT D3



Patrick Lem

EXHIBIT G1



Frank

EXHIBIT G2

TRAIN WITH PULL BACK
SLOW MOTION GEAR BOX

PRINTED PAPER/MYLAR SHEET

MAGNETIC
PIECE
(WHICH WILL GUIDE
THE TRAIN TO RUN
ALONG THE TRACK.)

PRINTED TRAIN TRACK

PRINTED METAL LINE

To Be Made by

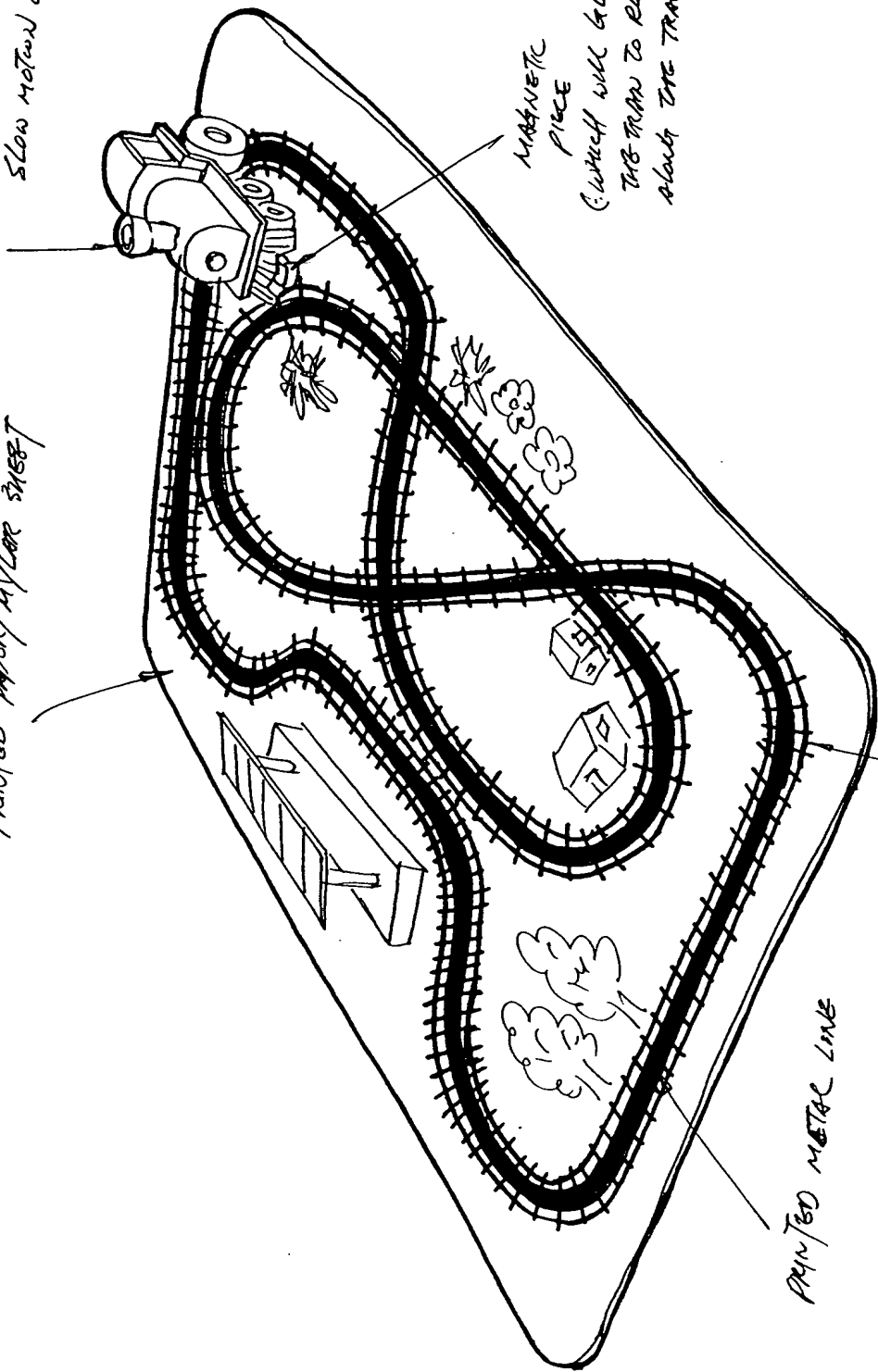
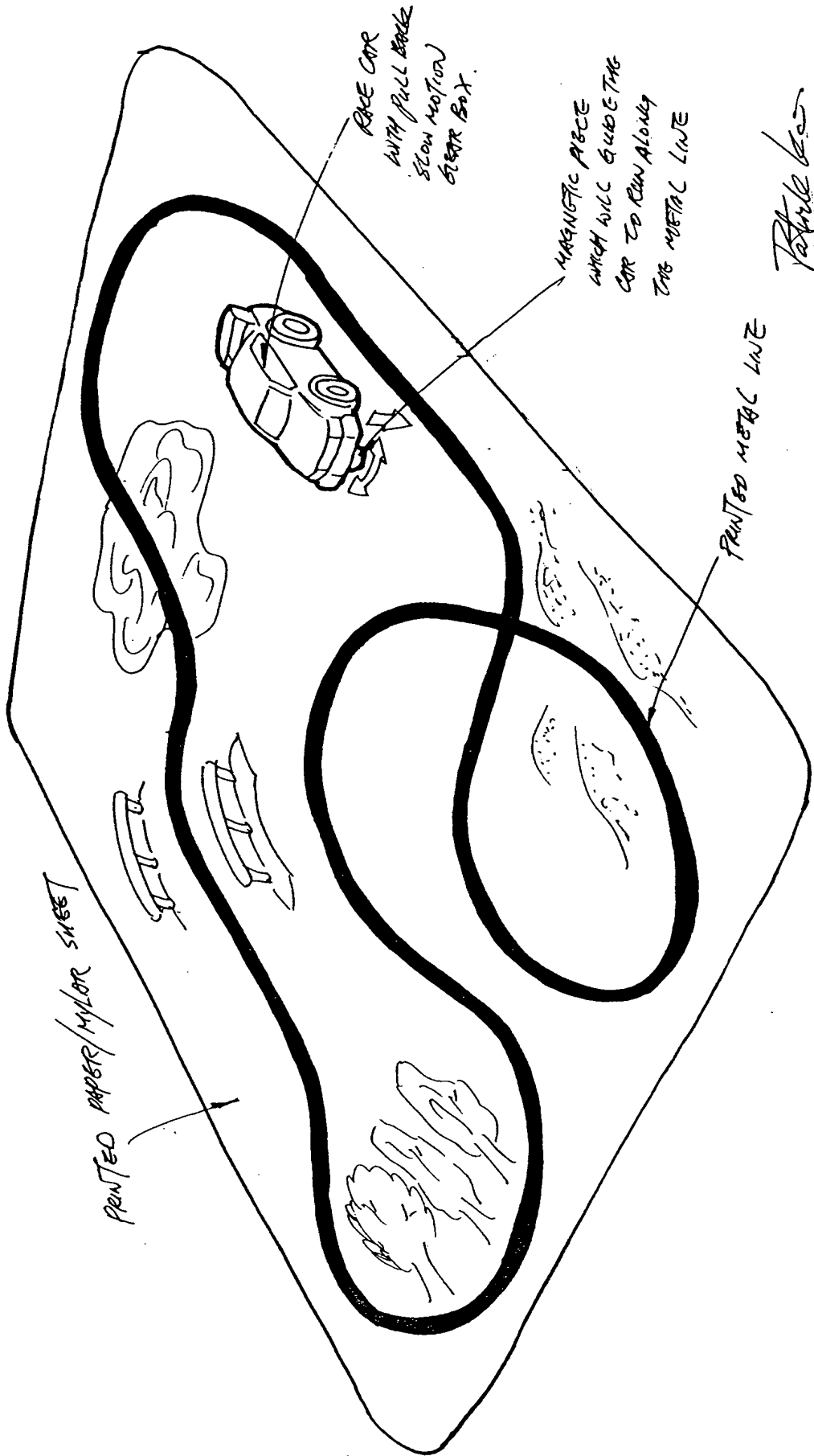
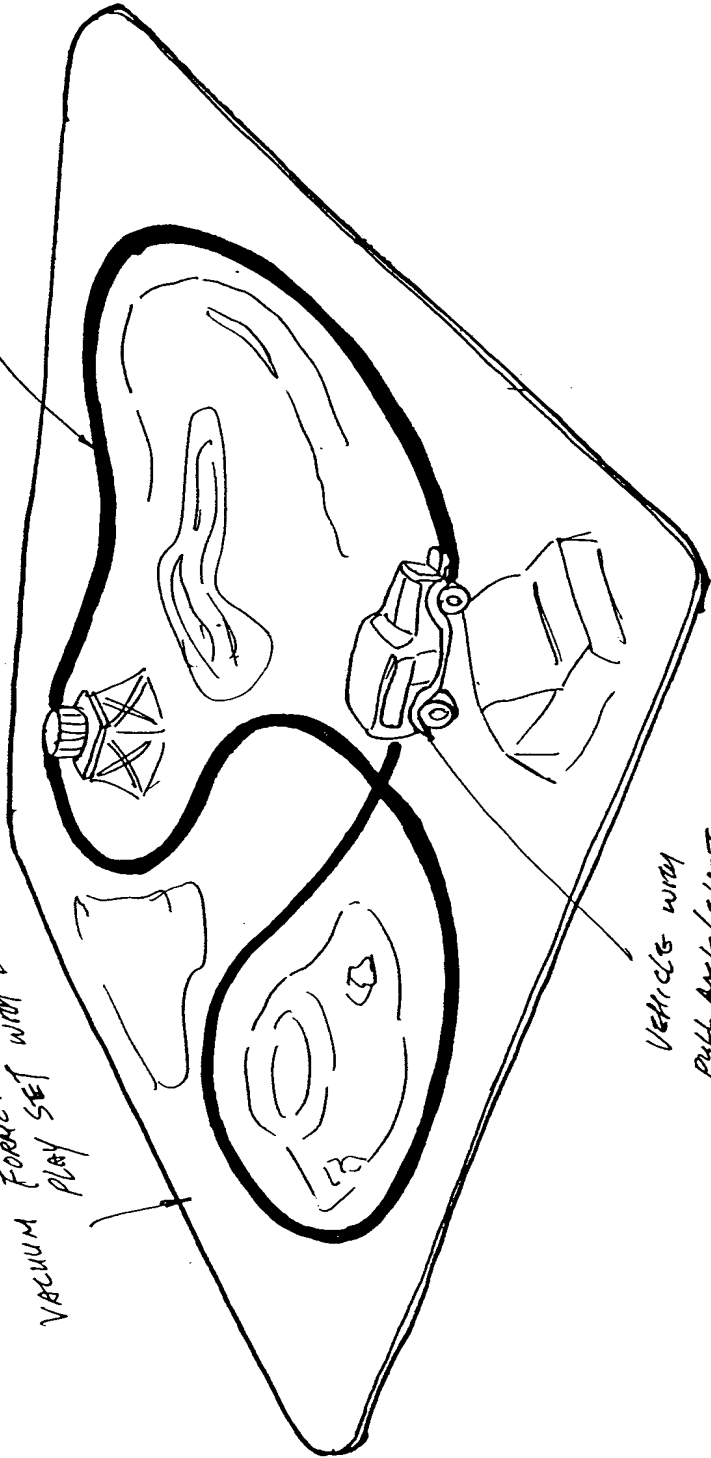


EXHIBIT 53



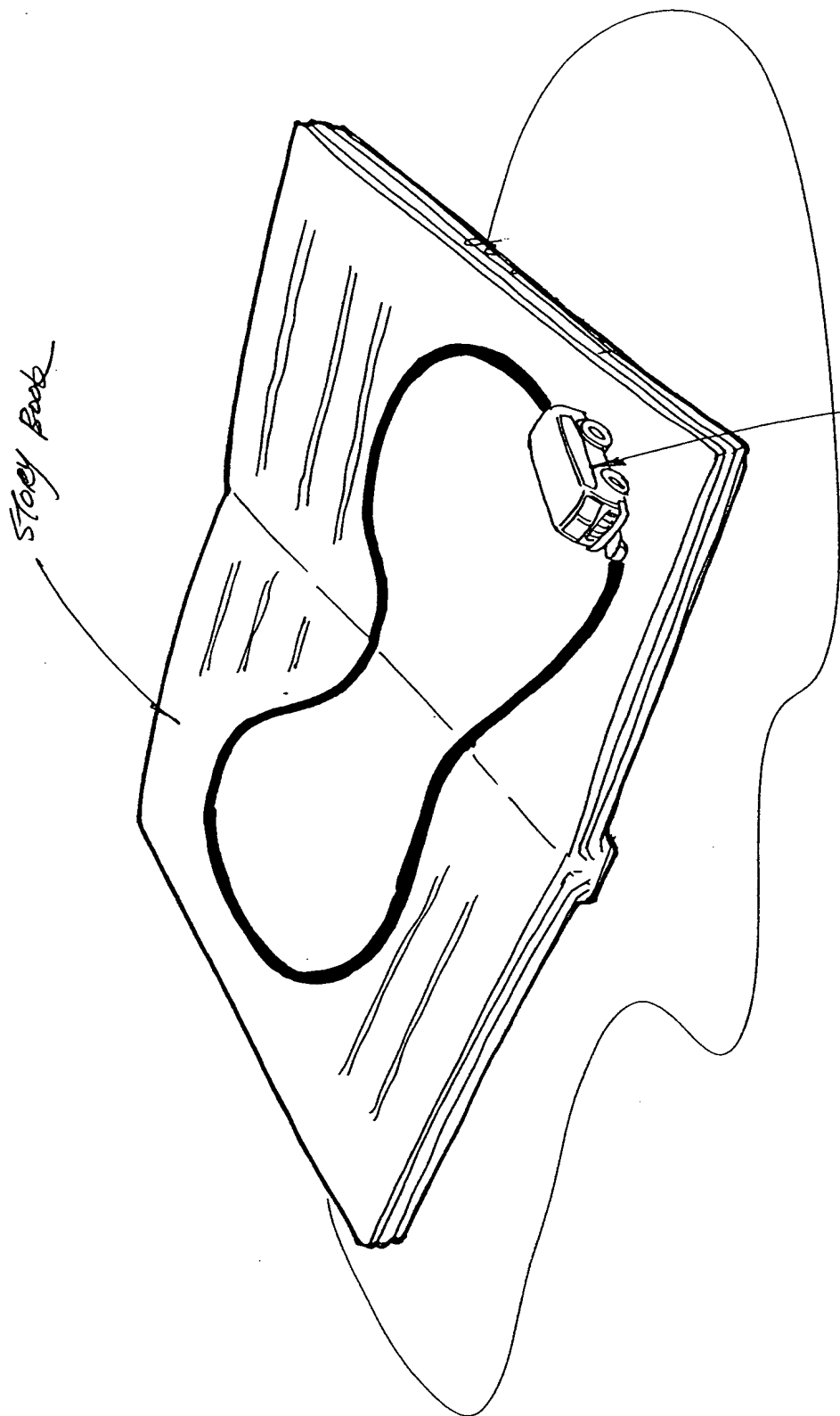
PRINTED MAGNETIC LINE

VACUUM FORMED
PLAY SET WITH DEC.



VEHICLE WITH
PULL BACK/ELECTRIC MOTOR
WIND-UP TO RUN ON THE
METAL TRACK.

T. Ambo



VEHICLE WITH ELECTRIC MOTOR/ALL BACK
BRUSH BRUSH TO RUN ON THE BOOK

R. H. G.



EXHIBIT H 1/3
(3 pages)

To : Mr Ferenc Fekete
From : Mr Thomas Fung

FERROUS AND MAGNETIC INKS

Formation and Chemical Content

The Ferrous and Magnetic Ink is a compound of electrolytic iron powder and different kinds of adhesive. Differentiate with the adhesives it can be classified as water base and oil base ink.

The water base contains mainly boiled water and starch whereas the oil base is a mixture of lacquer, rubber and synthetic rubber. The ideal ratio of iron powder to the adhesive is 1 to 1.5 by weight. However, in case the ink is not directly contact with the Magnetic Sensor Vehicle (for example, printed on the back side of the material), the iron powder content should be increased. This ratio likely to vary depending on the concept/ application.

Since it is the iron powder that dominates the magnetic strength of the ink, its fineness and purity is of vital importance. The iron powder we use in the ink making has an average fineness of 30 micron per particle diameter and less than half percent of its content is foreign elements.

The following is the chemical analysis of the iron powder in percentage:-

<u>I.Fe</u>	<u>C</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Mn</u>	<u>H₂ LOSS</u>
≥99.5	<0.005	<0.002	<0.01	<0.005	<0.0015	<0.1

...../ to be continued to page 2

Printflex Company 品印公司
Unit D, 29/F CNT Tower
338 Hennessy Road
Wanchai, Hong Kong
香港灣仔軒尼詩道338號北海中心29樓D室
Tel : (852) 2512-1062 Fax : (852) 2510-8752

FERROUS AND MAGNETIC INKS (to be continued)

Process

The Ferrous and Magnetic Ink can be applied to numerous of materials such as paper, plastic, fabric and leather by way of silk screen printing. The attached diagrams show its processing in different approaches. All the processes listed here have been analyzed and studied in the last 2 years.

At this stage of development, Process I and Process II yield the most consistent performance for the Magnetic Sensor (Steering Mechanism) Vehicle concept.

Process I

The ink is overprinted on top of the graphic, no protection layer or coating is done to the surface. This enable the ink to contact directly with the Magnetic Sensor Vehicle, thus yields the best performance.

Process II

The ink is overprinted on the graphic side and then cover with a thin layer of polypropylene (PP Lamination). The iron powder is kept from direct contact with the player and scratch off. However, the dominant dark grey colour of the iron powder may affect the aesthetic design of the graphic. Hence, it lead to the option of Process III.

Process III

The ink is printed on the reverse side of the graphic and protected by the PP lamination. This approach enable the graphic remains unaffected by the colour of the iron powder.

Process IV

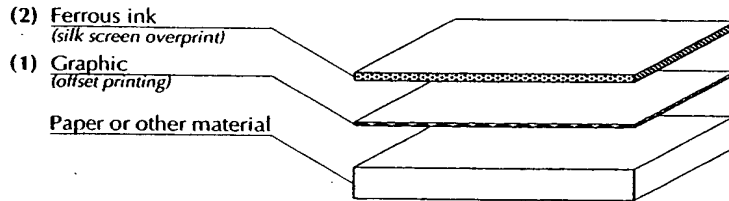
The PP lamination on the reverse side is replaced by a piece of paper. This approach is designed to prevent the iron powder from being exposed. At the meantime, it also add to the mystery of the product with the ink not being seen.

For and on behalf of
PrintFlex Company

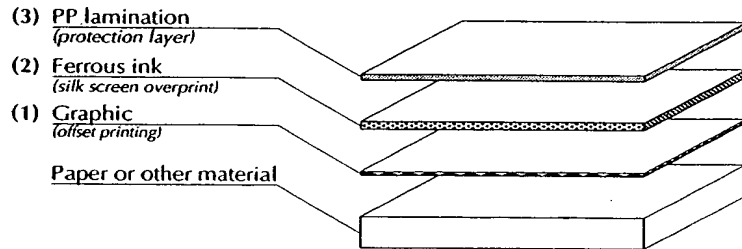

.....
Authorized Signature

Prepared by Thomas Fung W. T.

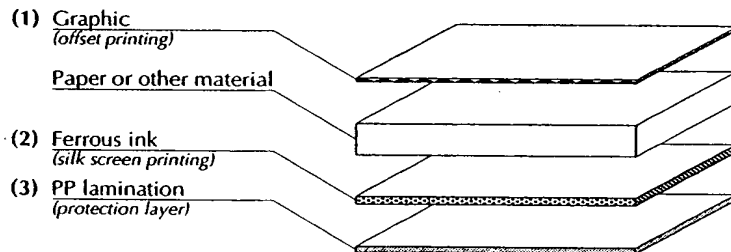
Process I



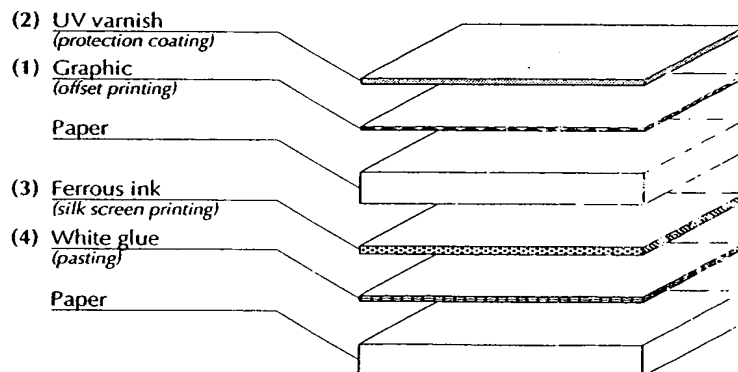
Process II



Process III



Process IV



Printflex Company 品印公司

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香港灣仔軒尼詩道338號北海中心29樓D室
Tel: (852) 2512-1062 Fax: (852) 2510-8752

EXHIBIT I

The Marketing Store Worldwide



Ferenc Fekete

Hong Kong

Mr. Melvin F. Jager
Brinks, Hofer, Gilson & Lione
NBC Tower, Suite 3600
4500 N. Cityfront Plaza Drive
Chicago, Illinois 60611-5599

Re: Ferrous and magnetic ink

Dear Melvin,

This is to follow up on our meeting on
office).

(at our Westmont

In the past several months we done a considerable amount of work, validating the invention. I directed the focus of our works here on finding low cost source of ferrite powder, formulating inks, and application/process methods. Parallel to the ink experiments, we modelled several versions of a steering mechanism which can "sense" the ferrous ink. You have seen one of the early model of a toy vehicle in our meeting. You may recall the vehicle accurately followed a curvy, black (ferrous ink) line on a paper track. Since then, the validation process with Printflex (HK) resulted in a reliable, predictable, and low cost manufacturing process.

There are
many creative, really new concepts can be based on this technology.

Best regards, Ferenc Fekete

Cc: Thomas Fung, Printflex (HK)
Steve Pachol, Warren Kronberger

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A HAVI Company